

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-35, without prejudice.

Please add claims 36-65.

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

Claims 1-35 (canceled).

Claim 36: A substantially pure nucleic acid encoding a polypeptide comprising amino acids 36 to 284 of SEQ ID NO: 4.

Claim 37: A substantially pure nucleic acid encoding a polypeptide consisting essentially of amino acids 36 to 284 of SEQ ID NO: 4.

Claim 38: A substantially pure nucleic acid encoding a polypeptide having an amino acid terminus beginning at any one of amino acids 81 to 139 of SEQ ID NO: 4.

Claim 39: A substantially pure nucleic acid encoding a polypeptide comprising an amino acid sequence at least 90% identical to:

(a) a polypeptide consisting essentially of amino acids 36 to 284 of SEQ ID NO: 4; or

(b) a polypeptide having an amino acid terminus beginning at any one of amino acids 81 to 139 of SEQ ID NO: 4.

Claim 40: The nucleic acid according to claim 39, wherein said polypeptide comprises an amino acid sequence at least 95% identical to:

(a) a polypeptide consisting essentially of amino acids 36 to 284 of SEQ ID NO: 4; or

(b) a polypeptide having an amino acid terminus beginning at any one of amino acids 81 to 139 of SEQ ID NO: 4.

Claim 41: A substantially pure nucleic acid encoding a polypeptide, wherein said nucleic acid hybridizes under high stringency conditions to the complement of a coding sequence, wherein the stringent conditions comprise washing steps using

2X SSC, 0.1% SDS at 65°C, and wherein the complement of said coding sequence is selected from the group consisting of:

- a) nucleotides 106 to 852 of SEQ ID NO: 3; and
- b) nucleotides 241 to 852 of SEQ ID NO: 3.

Claim 42: A substantially pure nucleic acid encoding a polypeptide, wherein said nucleic acid hybridizes under high stringency conditions to SEQ ID NO:3, wherein the stringent conditions comprise washing steps using 2X SSC, 0.1% SDS at 65°C, and wherein said nucleic acid encodes a polypeptide comprising amino acids 36 to 284 of SEQ ID NO: 4.

Claim 43: A substantially pure nucleic acid encoding a polypeptide comprising SEQ ID NO: 2.

Claim 44: A substantially pure nucleic acid encoding a polypeptide consisting essentially of SEQ ID NO: 2.

Claim 45: A substantially pure nucleic acid encoding a polypeptide having an amino acid terminus beginning at any one of amino acids 22 to 80 of SEQ ID NO: 2.

Claim 46: A substantially pure nucleic acid encoding a polypeptide comprising an amino acid sequence at least 90% identical to:

(a) a polypeptide consisting essentially of SEQ ID NO: 2; or

(b) a polypeptide having an amino acid terminus beginning at any one of amino acids 22 to 80 of SEQ ID NO: 2.

Claim 47: The nucleic acid according to claim 46, wherein said polypeptide comprises an amino acid sequence at least 95% identical to:

(a) a polypeptide consisting essentially of SEQ ID NO: 2; or

(b) a polypeptide having an amino acid terminus beginning at any one of amino acids 22 to 80 of SEQ ID NO: 2.

Claim 48: A substantially pure nucleic acid encoding a polypeptide, wherein said nucleic acid hybridizes under high stringency conditions to the complement of a coding sequence, wherein the stringent conditions comprise washing steps using

2X SSC, 0.1% SDS at 65°C, and wherein the complement of said coding sequence is selected from the group consisting of:

- a) SEQ ID NO: 1; and
- b) nucleotides 65 to 676 of SEQ ID NO: 1.

Claim 49: A substantially pure nucleic acid encoding a polypeptide, wherein said nucleic acid hybridizes under high stringency conditions to SEQ ID NO: 1, wherein the stringent conditions comprise washing steps using 2X SSC, 0.1% SDS at 65°C, and wherein said nucleic acid encodes a polypeptide comprising SEQ ID NO: 2.

Claim 50: The nucleic acid according to any one of claims 39, 41, 42, 46, 48 or 49, wherein said encoded polypeptide has a characteristic selected from the group consisting of:

- (a) binding to a cell surface receptor,
- (b) having cytokine activity,
- (c) forming a beta sheet, and
- (d) altering a local immune response.

Claim 51: The nucleic acid according to claim 50, wherein said polypeptide is capable of inducing apoptosis in an HT29 colon carcinoma cell.

Claim 52: A substantially pure nucleic acid that encodes a polypeptide of SEQ ID NO: 4, or a soluble fragment thereof, that is capable of binding to an HT-29 colon carcinoma cell and inducing apoptosis in said carcinoma cell.

Claim 53: The nucleic acid according to any one of claims 36, 37, 38, 39, 41, 42 or 52, wherein said polypeptide is fused to an amino acid tag sequence.

Claim 54: The nucleic acid according to any one of claims 36, 37, 38, 39, 41, 42 or 52, wherein the encoded polypeptide is fused to a type I or type II leader sequence.

Claim 55: The nucleic acid according to any one of claims 36, 37, 38, 39, 40, 41, 42 or 52, operably linked to an expression control sequence.

Claim 56: A host cell transformed with the nucleic acid according to any one of claims 36 to 52.

Claim 57: The host cell according to claim 56,
wherein said host cell is a mammalian cell.

Claim 58: The host cell according to claim 57,
wherein said mammalian cell is a human cell.

Claim 59: A method of producing a substantially pure
polypeptide comprising the steps of:

(a) culturing the transformed host cell according to
claim 56 and;

(b) isolating said polypeptide from said host cell to
obtain the substantially pure polypeptide.

Claim 60: A method of producing a substantially pure
polypeptide in an animal cell culture comprising the steps of:

(a) introducing into said cell culture a vector
comprising the nucleic acid according to any one of claims 36
to 49 or claim 52 and;

(b) allowing said cell culture to live under
conditions wherein said nucleic acid is expressed in said cell
culture to produce the polypeptide.

Claim 61: The method according to claim 60, wherein said animal cell culture is an insect cell culture or a mammalian cell culture.

Claim 62: The method according to claim 60, wherein said vector is a virus or a plasmid.

Claim 63: A method of expressing a polypeptide in an animal cell culture comprising the steps of:

(a) introducing into said cell culture a vector comprising a nucleic acid encoding a polypeptide of SEQ ID NO: 4, or a soluble fragment thereof that is capable of binding to a HT-29 colon carcinoma cell and inducing apoptosis in said carcinoma cell, and

(b) allowing said cell culture to live under conditions wherein said nucleic acid is expressed in said cell culture.

Claim 64: The method according to claim 63, wherein said animal cell culture is an insect cell culture or a mammalian cell culture.

Claim 65: The method according to claim 63, wherein said vector is a virus or a plasmid.

Claim 66: A substantially pure nucleic acid comprising consecutive nucleotides that encode a human TREL polypeptide, wherein said TREL polypeptide comprises the amino acid sequence of SEQ ID NO:4.

Claim 67: A substantially pure nucleic acid comprising consecutive nucleotides that encode TREL, said nucleic acid consisting essentially of SEQ ID NO:1 or SEQ ID NO:3.

Claim 68: A substantially pure nucleic acid consisting essentially of SEQ ID NO:1 or SEQ ID NO:3, said nucleic acid encoding a polypeptide, said polypeptide consisting essentially of SEQ ID NO:2 or SEQ ID NO:4.

Claim 69: A substantially pure nucleic acid that hybridizes under stringent conditions to SEQ ID NO:3, wherein said stringent conditions comprise washing steps using 2X SSC, 0.1% SDS at 65°C, and wherein said nucleic acid encodes a TREL polypeptide of SEQ ID NO:4.

Claim 70: The nucleic acid according to claim 66,
operably linked to an expression control sequence.

Claim 71: The nucleic acid according to claim 70
comprising SEQ ID NO:3.

Claim 72: A host cell transformed with the nucleic
acid according to claim 70 or 71.

Claim 73: A method for producing substantially pure
TRELL polypeptide comprising the steps of culturing the host
cell according to claim 72 and isolating TRELL polypeptide from
said transformed host cell to obtain substantially pure TRELL
polypeptide.

Claim 74: A method of expressing a TRELL polypeptide
in an animal cell culture comprising the steps of:

introducing into said cell culture a vector
comprising a nucleic acid molecule having consecutive
nucleotides that encode said TRELL polypeptide, wherein said
TRELL polypeptide comprises the amino acid sequence of SEQ ID
NO:4; and

allowing said cell culture to live under conditions wherein said nucleic acid molecule is expressed in said cell culture.

Claim 75: The method according to claim 74 or 87, wherein said animal cell culture is an insect cell culture or a mammalian cell culture.

Claim 76: The method according to claim 74 or 87, wherein said vector is a virus or a plasmid.

Claim 77: A substantially pure nucleic acid, consisting essentially of consecutive nucleotides that encode a TRELL polypeptide having the amino acid sequence of SEQ ID NO:2.

Claim 78: A substantially pure nucleic acid, comprising consecutive nucleotides that encode a human TRELL polypeptide, wherein said nucleic acid comprises SEQ ID NO:3.

Claim 79: The nucleic acid according to claim 86, wherein said soluble fragment of said TRELL polypeptide comprises an amino-terminus that begins between amino acid numbers 81 and 139 of SEQ ID NO:4.

Claim 80: The nucleic acid according to claim 79, wherein said soluble fragment of said TRELL polypeptide comprises amino acid numbers 81 to 284 of SEQ ID NO:4.

Claim 81: The method according to claim 75, wherein said mammalian cell culture is a human cell culture.

Claim 82: A method of expressing a TRELL polypeptide in an animal cell culture, comprising the steps of:

introducing a vector comprising a nucleic acid molecule comprising consecutive nucleotides encoding a TRELL polypeptide into said cell culture, wherein said TRELL polypeptide consists essentially of the amino acid sequence of SEQ ID NO:2; and

allowing said cell culture to live under conditions wherein said nucleic acid molecule is expressed in said cell culture.

Claim 83: The method according to claim 82, wherein said animal cell culture is an insect cell culture or a mammalian cell culture.

Claim 84: The host cell according to claim 72,
wherein said host cell is a mammalian cell.

Claim 85: The host cell according to claim 84,
wherein said mammalian cell is a human cell.

Claim 86: A substantially pure nucleic acid that
hybridizes under stringent conditions to SEQ ID NO:3, wherein
said stringent conditions comprise washing steps using 2X SSC,
0.1% SDS at 65°C, and wherein said nucleic acid encodes a TREL
polypeptide of SEQ ID NO:4, or a soluble fragment thereof, that
is capable of binding to an HT-29 colon carcinoma cell and
inducing apoptosis in said HT-29 colon carcinoma cell.

Claim 87: A method of expressing a TREL polypeptide
in an animal cell culture comprising the steps of:

introducing into said cell culture a vector
comprising a nucleic acid molecule having consecutive
nucleotides that encode said TREL polypeptide, wherein said
TREL polypeptide comprises the amino acid sequence of SEQ ID
NO:4, or a soluble fragment thereof that is capable of binding

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to a HT-29 colon carcinoma cell and inducing apoptosis in said
HT-29 colon carcinoma cell, and

allowing said cell culture to live under conditions
wherein said nucleic acid molecule is expressed in said cell
culture.